

REMARKS

Entry of this amendment in this application, and reconsideration of this application based on that amendment and these following remarks, are respectfully requested.

Claims 1, 4 through 13, 16 and 18 remain in this case. Claims 1, 4, 5, 12, 13, and 16 are amended. Claims 2, 3, 14, 15, and 17 are newly canceled in this paper; claims 19 through 23 were previously canceled.

In the final rejection of June 24, 2005, claims 1 and 12 were rejected under §103 as unpatentable over the Oguchi et al. reference<sup>1</sup> in view of the Ito et al. reference<sup>2</sup>. The claims dependent from claims 1 and 12 were also finally rejected under §103 as unpatentable over these two references, and further in view of other references of record<sup>3</sup>.

Claim 1 is amended to clarify its patentability over the prior art. Amended claim 1 now recites the step of storing, in each of at least two projectors, both chromaticity data and also luminance data, the luminance data representing the relative luminance of colors generated by that projector. The method of amended claim 1 also recites that it is this stored chromaticity and luminance data that is communicated in the communicating step, and that the calculating step bases its calculating of color correction data on the luminance data, together with the chromaticity data and standard color gamut. Support for this amendment to claim 1 is clearly provided by the specification,<sup>4</sup> and as such no new matter is presented by this amendment.

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<sup>1</sup> U.S. Patent No. 6,340,976 B1, issued January 22, 2002 to Oguchi et al., from an application filed August 17, 1999 via PCT International Application PCT/JP98/01709 filed April 15, 1998.

<sup>2</sup> U.S. Patent No. 6,388,674 B1, issued May 14, 2002 to Ito et al., from an application filed May 21, 1999.

<sup>3</sup> U.S. Patent No. 5,287,173, issued February 15, 1004 to Onuma et al.; U.S. Patent No. 6,453,067 B1 issued September 17, 2002 to Morgan et al.; U.S. Patent No. 6,101,272, issued August 8, 2000 to Noguchi; Japanese Patent Application Publication 02-0011351, published January 5, 1990, naming Yoshikuni as inventor; U.S. Patent No. 5,337,410, issued August 9, 1994 to Appel; U.S. Patent No. 5,253,043, issued October 12, 1993 to Gibson; U.S. Patent No. 6,467,910 B1, issued October 22, 2002 to Sato.

<sup>4</sup> Specification of S.N. 09/945,295, page 7, lines 1 through 12; page 11, line 31 through page 12, line 1.

Claims 2 and 3 are canceled, considering the amendment to claim 1. Claims 4 and 5 are further amended to more completely cover all aspects of Applicant's invention, and for consistency with the amendment to claim 1.

Applicant respectfully submits that amended claim 1 and its dependent claims are patentably distinct over the prior art of record in this case. In regards to the combination of the Oguchi et al. and Ito et al. references, neither of these references disclose or suggest the storing and communicating of luminance data representing the relative luminance of colors generated by one of the projectors, as now required by amended claim 1, much less the calculating of color correction data based on that luminance data. As such, Applicant submits that the combined teachings of the applied references fall short of the requirements of amended claim 1 now in this case.

In the Office Action of June 24, 2005, the Examiner asserted that the Onuma et al. reference teaches the use of luminance as part of chromaticity data, in rejecting original claim 2. Applicant further submits that these teachings, even if combined with the teachings of the Oguchi et al. and Ito et al. references, would still fall short of the requirements of amended claim 1. The luminance value that is used according to the Onuma et al. reference is the luminance of a single color component, which is useful in adjusting the "white balance" of the projector.<sup>5</sup> As known in the art,<sup>6</sup> the term "white balance" refers to the color temperature of a light source, which is useful in comparing light sources with one another. The Onuma et al. reference is concerned with luminance of each color component for this purpose.

In contrast, the method of claim 1 requires the storing, calculating, and calculating steps to include luminance data representing the relative luminance of colors generated by each projector, in combination with the chromaticity data. The specification distinguishes between "certain luminance aspects of the projector" that are represented with color in the chromaticity data M, on one hand, and other luminance data, such as "relative luminance" data, which for

<sup>5</sup> Onuma et al., *supra*, column 3, lines 20 through 36.

<sup>6</sup> See the corresponding *Wikipedia* entry for "white balance" at [http://en.wikipedia.org/wiki/White\\_balance](http://en.wikipedia.org/wiki/White_balance) (copy enclosed). See also Morgan, *supra*, column 5, lines 26 through 57.

example represents the relative luminance of each color of a color wheel relative to a base color wheel rate, and overall luminance data "L" representative of the light source, on the other hand.<sup>7</sup> Applicant submits that the luminance data disclosed by the Onuma et al. reference corresponds to the "certain luminance aspects" that are represented in the chromaticity data, considering that the Onuma et al. reference is concerned with white balance, while the luminance data representing the relative luminance of colors generated by the projector, recited in claim 1, corresponds to the other luminance data that are not represented in the chromaticity data. Accordingly, because amended claim 1 requires both the chromaticity data (which may include "certain luminance aspects" and the recited luminance data to be stored, communicated and used in the calculating step, Applicant submits that the combination of the Onuma et al. teachings with those of the Oguchi et al. and Ito et al. references still falls short of the requirements of claim 1.

Applicant further respectfully submits that the other references of record in this case add no further teachings in this regard.

Accordingly, Applicant submits that amended claim 1 and its dependent claims are patentably distinct over the prior art of record in this case.

Amended claim 4 further recites, relative to claim 1 upon which it now depends, that the stored luminance data represents effective light times of each color of the color wheel for that projector relative to a base color wheel rate. Support for this amendment to claim 4 is clearly present in the specification.<sup>8</sup> No new matter is presented.

In addition to the reasons discussed above relative to amended claim 1, Applicant respectfully submits that amended claim 4 is further patentably distinct over the prior art of record in this case, because none of the references of record anywhere disclose the further limitation of the luminance data representing effective light times of each color of a color wheel relative to a base color wheel rate. The Morgan reference was asserted as teaching a color wheel

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<sup>7</sup> Specification, *supra*, page 6, line 25 through page 7, line 6.

<sup>8</sup> Specification, *supra*, page 7, lines 1 through 12.

in a projector, but this reference nowhere discloses any deriving of effective light times of each color of the color wheel relative to a base rate, nor does it suggest or otherwise provide motivation for such luminance data. Accordingly, Applicant respectfully submits that amended claim 4 is further patentably distinct over the prior art of record in this case.

For these reasons, Applicant submits that amended claim 1 and its dependent claims are patentably distinct over the prior art of record in this case.

Amended claim 12 now recites the construction of each projector as including a spatial light modulator and a memory, where the memory is for storing chromaticity data and luminance data for that projector, the luminance data representing the relative luminance of the colors generated by the spatial light modulator responsive to the pixel values. The claimed system now also recites a main controller that is coupled to receive stored chromaticity and luminance data from each of at least two projectors, where this main controller comprises circuitry for generating color correction data based on that data, and for calculating corrected pixel values based on the color correction data. No new matter is presented by this amendment to claim 12, given the support for the amendment in the specification.<sup>9</sup>

Claim 13 is amended to more completely cover all aspects of Applicant's invention, by further reciting, relative to claim 12 upon which it depends, that the spatial light modulator comprises a digital micro-mirror device, a light source, and a color wheel. Claims 14, 15, and 17 are canceled, considering the amendment to claim 12. Claim 16 is amended to now depend upon claim 13, and to recite that the luminance data of each of the projectors represents effective light times of colors of the color wheel in that projector relative to a base color wheel rate, similarly as claim 4 discussed above.

For similar reasons as discussed above relative to amended claim 1, Applicant submits that amended claim 12 and its dependent claims are patentably distinct over the prior art of record in this case. As discussed above, the Oguchi et al. and Ito et al. references nowhere disclose or suggest a memory storing luminance data representing the relative luminance of

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<sup>9</sup> Specification, *supra*, page 7, lines 1 through 12; page 11, line 31 through page 12, line 1; Figure 4.

colors generated by one of the projectors, as now required by amended claim 12, much less a main controller that generates color correction data based on that luminance data. While the Onuma et al. reference teaches the use of the luminance of individual color components to adjust the "white balance" of a projector,<sup>10</sup> this luminance is different from the luminance data stored in the memory of the projectors of amended claim 12. Indeed, the specification of this case itself distinguishes between "certain luminance aspects of the projector" that are represented, along with color, in the chromaticity data M (and which Applicant submits is the luminance information of the Onuma et al. reference), and other luminance data, such as "relative luminance" data of amended claim 12, an example of which represents the relative luminance of each color of a color wheel relative to a base color wheel rate.<sup>11</sup> Applicant therefore submits that, even if one combines the Onuma et al. reference with the Oguchi et al. and Ito et al. references, the combination would still falls short of the requirements of amended claim 12. And because the other references of record in this case add no further teachings in this regard, Applicant submits that amended claim 12 and its dependent claims are patentably distinct over the prior art of record in this case.

Applicant also respectfully submits that amended claim 16 is further patentably distinct over the prior art of record in this case, because none of the references of record anywhere disclose its additional limitation that the luminance data represents effective light times of each color of a color wheel of its projector, relative to a base color wheel rate. The Morgan reference provides no such teachings, and indeed nowhere mentions effective light times of each color of the color wheel relative to a base rate, much less suggest storing luminance data based on such effective light times. Applicant therefore respectfully submits that amended claim 16 is further patentably distinct over the prior art of record in this case.

For these reasons, Applicant submits that amended claim 12 and its dependent claims are also patentably distinct over the prior art of record in this case.

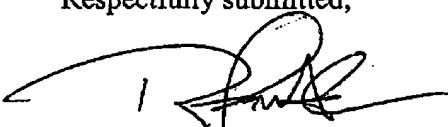
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<sup>10</sup> Onuma et al., *supra*, column 3, lines 20 through 36.

<sup>11</sup> Specification, *supra*, page 6, line 25 through page 7, line 6.

For these reasons, Applicant respectfully submits that, upon the continued examination of this application, all claims are in condition for allowance. Favorable consideration of this application, in its continued examination, is therefore respectfully requested.

Respectfully submitted,



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37 C.F.R. 1.8

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